Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Continental Resources, Inc.
Well Name/Number: Candee #3-18H
Location: NE NE Section 18 T24N R53E
County: Richland**, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 30 to 40 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig to drill a single lateral horizontal Bakken Formation test, 19,300'MD/9,242'TVD.
Possible H2S gas production: Slight chance H2S gas from Mississippian Formations.
In/near Class I air quality area: No Class I air quality area in the area of review.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____

Comments: Triple derrick drilling rig to drill a single lateral horizontal Bakken Formation test, 19,300'MD/9,242'TVD. If there is an existing pipeline for H2S gas in the area and gas can be gathered or if no gathering system nearby H2S gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)
Salt/oil based mud: Yes to intermediate string hole to be drilled with oil based invert drilling fluids. Horizontal lateral will be drilled with brine water. Surface casing hole will use freshwater and freshwater mud system.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to Horse Creek, about adjacent to this location on the west side of this well location.
Water well contamination: None, closest water wells are about ¼ of a mile to the northeast and about ¾ of a mile to the northeast from this location. Depth of these stock/domestic water wells range from 32' to 62'. This well will drill surface casing hole to 1285' and will run 1285' of steel surface casing and cement it to surface.
Porous/permeable soils: No, sandy clay soils.
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
X Closed mud system
X Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 1285' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and operational BOP equipment will prevent any problems.

Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.
High erosion potential: No, location needs a small cut, up to 7.2' and a small fill, up to 6.9', required.
Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: No, large well site 500'X270'.
Damage to improvements: Slight, surface use is grazing land.
Conflict with existing land use/values: Slight

Mitigation

__ Avoid improvements (topographic tolerance)
__ Exception location requested
X Stockpile topsoil
__ Stream Crossing Permit (other agency review)
X Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
X Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, #134. Operator will construct about 155' of new access road into this location from the existing county. Oil based invert drilling fluids will be recycled. Completion fluids will be trucked to a Class II disposal. Operator will utilize a closed loop mud system. Cuttings and mud solids will be disposed of in the lined cuttings pit and solidified with flyash or trucked to an authorized solids disposal facility. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Closest residence is about 3/8 of a mile to the east northeast from this location.
Possibility of H2S: Slight chance H2S gas from Mississippian Formations.
Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:

X Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: Adequate surface casing cemented to surface with a working BOP stack should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.
Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No, none.
Conflict with game range/refuge management: No, none.
Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species are the Sprague's Pipit and the Greater Sage Grouse. NH tracker website indicates zero (0) species of concern in this area. NH Tracker website indicates four (4) Potential Species of Concern: Hayden's Shrew, Chimney Swift, Eastern Screech-Owl and Tennessee Warbler.

Mitigation:

__ Avoidance (topographic tolerance/exception)

__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: _____
Comments: Private surface grazing lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern are discovered at this location. Lateral section cuts Trust Lands minerals in section 19.

Historical/Cultural/Paleontological

(possible concerns)
Proximity to known sites: None identified
Mitigation
__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:_____
Comments: Private surface grazing lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite.

Social/Economic

(possible concerns)
__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation
Comments: No concerns.

Remarks or Special Concerns for this site

Wildcat single lateral horizontal Bakken Formation test 19,300'MD/9,242'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: May 8, 2012
Other Persons Contacted:
Bureau of Mines and Geology, GWIC website
(Name and Agency)

Water wells in Richland County, Montana
(subject discussed)
May 8, 2012
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Richland County
(subject discussed)
May 8, 2012
(date)

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3 T24N R53E
(subject discussed)

May 8, 2012
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____